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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,286	07/30/2003	Robert T. George	ITL.1034US (P16844)	9710
21906	7590	12/15/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			PATEL, NIKETA I	
			ART UNIT	PAPER NUMBER
			2181	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/630,286	Applicant(s) GEORGE ET AL.	
	Examiner Niketa I. Patel	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is/are objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/28/04, 11/12/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language:

2. Claims 1-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Zuraski, Jr. et al.

U.S. Patent Number: 6,510,508 B1 (hereinafter “*Zuraski*”).

3. **Referring to claims 1, 8, 20, *Zuraski*** teaches a method and an apparatus comprising: a pipeline resource [see column 9, lines 30-45 and figure 2, element 39] having a plurality of address spaces [see column 1, lines 29-41], each of the plurality of address spaces corresponding one plurality of address space identifiers [see column 1, lines 29-41.]

4. **Referring to claims 2, 9, 18, *Zuraski*** teaches wherein the pipeline resource comprises entries each including one of the plurality of address space identifiers [see column 1, lines 29-41.]

5. **Referring to claims 3, 17, *Zuraski*** teaches further comprising a control register coupled to the pipeline resource to provide the plurality address space identifiers to the entries [see column 9, lines 48-61 and figure 2, element 30.]

6. **Referring to claims 4, 21, *Zuraski*** teaches wherein the entries are selectively flushable [see column 9, lines 48-61.]

Art Unit: 2181

7. **Referring to claims 5, 22**, *Zuraski* teaches wherein the entries further include a thread identifier [see column 9, lines 43-47, 'pointer'.]
8. **Referring to claim 6**, *Zuraski* teaches wherein the pipeline resource comprises a translation lookaside buffer [see column 9, lines 30-45 and figure 2, element 39, 'TLB'.]
9. **Referring to claim 7**, *Zuraski* teaches further comprising a filter coupled to the translation lookaside buffer to select at least one of the entries to be flushed [see column 9, lines 48-61 and figure 2, element 40.]
10. **Referring to claims 10, 24, 27**, *Zuraski* teaches further comprising invalidating the entry if an update to the value occurs during a context [see column 11, lines 1-20.]
11. **Referring to claim 11**, *Zuraski* teaches further comprising selectively flushing the entry after invalidating the entry [see column 11, lines 14-20.]
12. **Referring to claim 12**, *Zuraski* teaches wherein invalidating the entry further comprises invalidating all non-global entries of the pipeline resource [see column 11, lines 14-20.]
13. **Referring to claim 13**, *Zuraski* teaches wherein invalidating the entry further comprises invalidating all entries of the pipeline resource associated with the address space identifier [see column 11, lines 14-20.]
14. **Referring to claims 14, 23**, *Zuraski* teaches further comprising associating a second address space identifier with a second value [see column 11, lines 46-65, 'new value']; and storing the second value and the second address space identifier in the pipeline resource [see column 11, lines 46-65.]

Art Unit: 2181

15. Referring to claims 15, 19, 28, *Zuraski* teaches further comprising hashing the address space identifier with a portion of the value before storing the value and the address space identifier [see column 11, lines 21-35.]

16. Referring to claim 16, *Zuraski* teaches a system comprising: a processor [see column 14, lines 1-5, 'processor'] including a pipeline resource having a plurality of address spaces [see column 9, lines 30-45 and column 1, lines 29-41], each of the plurality of address spaces corresponding to one of a plurality of address space identifiers [see column 9, lines 30-45 and column 1, lines 29-41]; and a dynamic random access memory coupled to the processor [see column 14, lines 6-11, 'DRAM'.]

17. Referring to claims 25, 26, *Zuraski* teaches a method comprising: providing a first address space identifier to a pipeline resource during a first context [see column 9, lines 30-67]; storing the first address space identifier in a first entry of the pipeline resource [see column 9, lines 30-67]; providing a second address space identifier to the pipeline resource during a second context [see column 9, lines 30-67]; and storing the second address space identifier in a second entry of the pipeline resource [see column 9, lines 30-67.]

18. Referring to claim 29, *Zuraski* teaches further comprising maintaining the first address space identifier in the first entry during the second context [see column 11, lines 46-65.]

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents have been made record of to further show the state of the art as it pertains to TLB flush filter:

Art Unit: 2181


Baldwin U.S. Patent Number: 6,650,333 B1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niketa I. Patel whose telephone number is (571) 272 4156. The examiner can normally be reached on M-F 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272 4083. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NP
12/4/2005


DOV POPOVICI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100